

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
2 June 2005 (02.06.2005)

PCT

(10) International Publication Number
WO 2005/050179 A1

(51) International Patent Classification⁷: **G01N 21/41**,
21/45

(21) International Application Number:
PCT/IL2003/000987

(22) International Filing Date:
24 November 2003 (24.11.2003)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicant (for all designated States except US):
QUALISENSE TECHNOLOGIES LTD. [IL/IL];
Hayotzer Street, 70350 Beer Yaakov (IL).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **GAN, Livne** [IL/IL];
50 Neve Zin, 84990 Medereshet Ben Gurion (IL).

(74) Agents: **KOLTON, Lihu et al.**; Eitan Law Group, Advoca-
tes, Patent Attorneys, P.O.Box 2081, Herzlia Industrial
Zone 46120 (IL).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR,
CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,
MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU,
SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,
UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

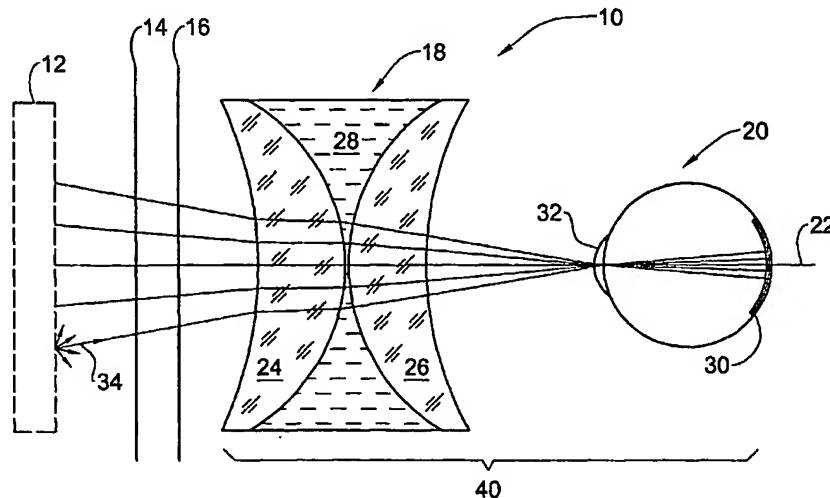
(84) Designated States (regional): ARIPO patent (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,
SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: METHOD AND SYSTEM FOR IDENTIFICATION OF CHANGES IN FLUIDS



(57) Abstract: Method and system for identification of a changed state of a fluid with respect to a reference state of the same fluid, the fluid having an optical parameter changing with the change of the state of the fluid. The method comprises: a) providing an optical arrangement including a transparent enclosure with a portion of the fluid, and an object observable through the optical arrangement, the arrangement being designed such that an image of the object in the changed state of the fluid is optically distinctive from an image of the object in the reference state of the fluid due to change of the optical parameter, at least one of the images being predetermined; b) illuminating the object with diffuse light; c) observing a current image of the object through the optical arrangement along an optical axis; and d) comparing the current image to the predetermined image to identify the changed state of the fluid. The comparison and the identification may be performed by eye or by a sensor with a logical circuit.